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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/363,121	07/28/1999	BONG-WOO LEE	35399/DBP/Y3	7750

23363 7590 04/09/2003

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EXAMINER

WILLIAMS, JOSEPH L

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/363,121

Applicant(s)

LEE, BONG-WOO

Examiner

Joseph L. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 December 2002 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuneta et al. (US 3,806,750) in view of Jang (US 5,366,758) and Kim (US 5,998,920), all of record.

With regards to claims 1-2, Figs. 1 and 3 as well as col. 2, line 23-col. 4, line 10 of Tsuneta et al. disclose a CRT that comprises the following: a panel (14 of Figs. 1 and 3) having a phosphor screen (15 of Fig. 3); a cylindrical neck (12 of Fig. 1) having an

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electron gun assembly (17 of Fig. 3) disposed therein; a funnel (13 of Fig. 1) that is formed between the panel and neck, and having a rectangular cone portion contiguous to the neck, wherein the substantially rectangular cone portion having rounded inside corners tangentially joining adjacent cone walls of the rectangular cone portion (See Figs. 5 and 6, which illustrate the cone portion having rounded inside corners); and an inherent anode button.

Tsuneta et al. does not specifically discuss the concept of having an inner graphite layer that is disposed on an inner surface of the funnel to form a path for transmission of the voltage, wherein the inner graphite layer satisfies the following condition, $0.9 < T_d / T_h < 1.36$ (for claim 1) or $0.9 < T_d / T_v < 1.36$ (for claim 2), where T_d is an approximate thickness of the inner graphite layer on each inside corner of the cone portion, T_h is an approximate thickness of the inner graphite layer disposed on inside horizontal walls of the cone portion, and T_v is an approximate thickness of the inner graphite layer disposed on inside vertical walls of the cone portion.

However, col. 1, lines 8-37 and col. 3, lines 1-6 of Jang discloses a CRT having a funnel with a graphite coating that is covered uniformly (wherein, the thickness ratios would be equal to "1", which is within the range claimed by the applicants) over the inner surface of the funnel for the purpose of providing the CRT with an inner conductive film between the screen portion and the electron gun; thus, enabling a high voltage to be applied through the conductive film in order to accelerate the electron beams to the screen from the electron gun.

More over, col. 2, lines 38-53 of Kim teaches that it would be desirable to have a graphite coating spread uniformly over the inner surface of a CRT for the purpose of insuring that the high voltage flows uniformly across the inside surface of the funnel and prevent any unwanted internal discharging.

Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to uniformly (wherein, the thickness of the coating at the corners is equal to the thickness of the coating on the vertical and horizontal walls) coat the inner surface of the funnel of Tsuneta et al., which includes the corners as well as vertical and horizontal walls for the purpose of providing the CRT of Tsuneta et al. with an inner conductive film from the electron gun to the screen portion which enables a high voltage to be applied uniformly across the funnel and accelerates the electron beams from the electron gun to the screen as taught by Jang and Kim.

Response to Arguments

4. Applicant's arguments filed 26 December 2002 have been fully considered but they are not persuasive.

More specifically, the applicants have argued that Jang and Kim disclose the application of a uniform coating to a circular cone portion, and that there is no suggestion to combine the teachings of Jang and Kim as to a circular cone portion with the teachings of Tsuneta et al. as to a rectangular cone portion. More specifically, the applicants have argued that if Jang included a rectangular cone portion, the lining graphite 8 would not be uniformly coated on the inside corners of the rectangular cone

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portion when coated according to the coating method of taught by Jang. However, the examiner holds that whether or not Jang discloses a circular cone portion or a rectangular cone portion is irrelevant because the examiner relies on the teaching and desirability of uniformly coating the entire inner surface (including the corners) of the cone portion except for an area that faces the getter. Even though Jang discloses an area of the inner surface of the cone portion that is not coated with the graphite lining, that particular area is not at the corners, and one of ordinary skill in the art at the time the invention was made would understand that if the getter was not present, that particular area of the surface of the cone portion would be uniformly coated with graphite. More over, the applicants have not provided any evidence, but merely conjectured, that the cone portion of Jang is circular as opposed to rectangular, and furthermore, Figs. 1, 2A and 2B appear to disclose a rectangular cone portion as opposed to a circular cone portion.

With regards to the Kim reference, the applicants have argued that Kim's "uniformly deposited" actually refers to the consistency of the layered mixture of the graphite and two oxides. However, the examiner would like to point out that col. 2, lines 30-52 clearly talks about the problems that can arise when the graphite coatings' thickness varies (and is not uniform) across the inside surface of the cone portion (which includes the corners) such as the voltage applied to the cavity of the CRT cannot uniformly flow across the inside surface of the funnel or cone portion. Thus, it is clear that "uniformly deposited" in Kim is referred to the thickness of the graphite coating across the surface of the cone portion. More over, the applicants have specifically

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argued Kim discloses a circular cone portion and that even if assuming the Examiner's understanding, the uniform thickness of the graphite layer of Kim's "circular cone portion" would be achieved according to the conventional method, which provides uniform coating to the CRT having a circular cone portion, and not a rectangular cone portion. However, as mentioned earlier, the applicants have not provided any evidence, but merely conjectured, that the cone portion of Kim is circular as opposed to rectangular, yet, Fig. 3 discloses the cone portion to be rectangular. In addition, whether or not Kim discloses a rectangular or circular cone portion is irrelevant because Kim is relied upon for the teaching of the desirability of uniformly coating a graphite coating across the inside surface of a cone portion (which includes the corners),

Finally, the examiner would like to again point out that while the applicants have argued that an inner graphite coating cannot be uniformly applied to the inside corners as it is on the horizontal and vertical walls of a rectangular cone portion, the applicants' formula as claimed in claims 1 and 2 allows for the possibility of the graphite coating thickness ratios of the corners to the horizontal sides and the corners to the vertical sides to be 1 or i.e., uniform. And If the applicants' arguments are suggesting that it is not possible to have a uniform thickness throughout the inner surface of the funnel (including the corner junctions as compared to the long and short sides of the funnels), then the applicants would have incorporated a possible thickness ratio of the graphite coating at the corners and long and short sides that would cause the CRT to function undesirably and be contrary to the applicants' disclosure, which would not be commensurate with 35 USC 112-1s' paragraph, thus, the applicants' arguments would

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contradict the applicants' disclosure. The examiner respectfully contends that it is not the applicants' intentions to contradict their disclosure (i.e., the claims and specification)- therefore, the examiner contends that it is possible to have a graphite coating of uniform thickness on the corner junctions and long and short sides of the funnel', and that it would be obvious to one of ordinary skill in the art at the time the invention was made in view of Tsuneta et al. and Jang and Kim to produce a CRT that includes a funnel with a graphite coating of uniform thickness at the corner junctions and long and short sides.

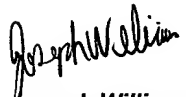
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (703) 305-1670. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read "Joseph Williams".

Joseph Williams

Examiner

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April 7, 2003